

WHAT IS CLAIMED IS:

1. A complementary thin film transistor circuit, comprising:
a first-conductivity-type thin film transistor and a second-conductivity-type thin film transistor formed using single crystal grains, the single crystal grains being formed substantially centered on each of a plurality of starting-point portions disposed on an insulating surface of a substrate,
the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor formed by equalizing their drain current directions, and formed in the single crystal grains in which at least the channel regions of the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor have the same plane orientation.
2. The complementary thin film transistor circuit according to claim 1, the channel regions of the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor formed in one single crystal grain.
3. The complementary thin film transistor circuit according to claim 1, further comprising:
electric field relief regions which are formed at both sides of the channel regions of the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor, the channel regions being sandwiched between the electric field relief regions, which are composed of low-concentration impurity regions,
the electric field relief regions and the channel regions formed in the same single crystal grain.
4. The complementary thin film transistor circuit according to claim 1, the channel region formed in a region in the single crystal grain that does not include the starting-point portion.
5. The complementary thin film transistor circuit according to claim 4, the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor are formed in a semiconductor film in which the single crystal grain is patterned in a U shape.
6. The complementary thin film transistor circuit according to claim 4, the first-conductivity-type thin film transistor and the second-conductivity-type thin film transistor formed in a semiconductor film in which the single crystal grain is patterned in a rectangular shape.

7. The complementary thin film transistor circuit according to claim 1, the single crystal grain formed by carrying out a heat treatment on an amorphous or a polycrystalline semiconductor film.

8. The complementary thin film transistor circuit according to claim 7, the starting-point portion being a concave portion formed on an insulating substrate.

9. The complementary thin film transistor circuit according to claim 8, the single crystal grain formed by carrying out the heat treatment on the semiconductor film under a condition that the semiconductor film in the concave portion is not melted and the remaining portions are melted.

10. The complementary thin film transistor circuit according to claim 9, the heat treatment being laser irradiation.

11. The complementary thin film transistor circuit according to claim 7, the single crystal grain being a silicon single crystal grain formed by carrying out the heat treatment on the amorphous or the polycrystalline silicon film.

12. An electro-optical device, comprising:
the complementary thin film transistor circuit according to claim 1.

13. An electronic apparatus comprising:
the complementary thin film transistor circuit according to claim 1.